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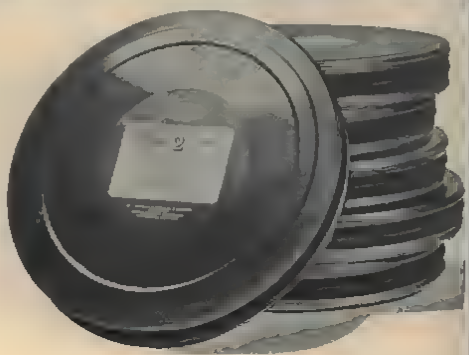

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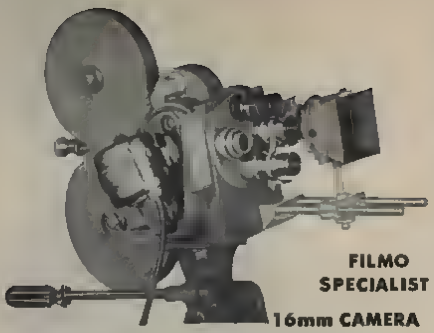

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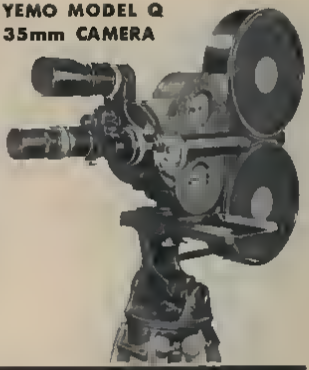

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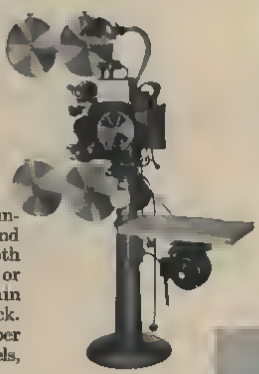

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Hollywood Bulletin Board

PETER MOLE, A.S.C., in recognition of his contributions in development of studio lighting equipment was tendered certificate of appreciation by Charles C Clarke, A.S.C. in behalf of members of American Society of Cinematographers. Occasion was Society's recent 30th Anniversary celebration

CELEBRATING THIRTIETH Anniversary of founding of the Society of American Cinematographers, members of the A S C gathered at the Society's clubhouse in Hollywood the evening of February 14th for dinner and to be entertained by various personalities including Dan Dailey, 20th Century-Fox screen star. Dailey recounted his experiences since entering films, and "rolled em in the aisles with humorous anecdotes of his experiences with various studio executives and directors of photography.

Peter Mole, of Mole-Richardson Company, was presented with an attractive Certificate Of Appreciation tendered him by members of the A S C. in recognition of his outstanding contributions in the development of lighting equipment for cinematography.

Event also marked the Society's annual March of Dimes fund raising in which members contributed generously to this worthy cause.

Making his initial appearance at the clubhouse since becoming an associate member, was Mr H W Remerschied, of the Bell & Howell Company, to whom members are indebted for providing the excellent Filmosound 16mm. projection facilities for the A. S. C.'s new projection booth.

Renewing acquaintances and swapping stories was the indefatigable Leon Shamroy, A.S.C., the Society's former presideot, who recently returned from Italy where for more than a year he directed the photography on 20th Century-Fox's "Prince Of Foxes."

•

BRITISH SOCIETY of Cinematographers was initially launched at an inaugural luncheon January 29th in London according to Jack Cardiff, A.S.C. Freddy Young was installed as president of the Society which numbers 55 members. President Charles G. Clarke of the A. S. C., in behalf of members of the American Society of Cinematographers, sent the British group a congratulatory cablegram on the occasion of their first meeting.

SCREEN LUMINARY Dan Dailey was guest of honor at A S C's 30th Anniversary dinner spoke humorously of his experiences with various A S C members with whom he has worked

•

JONN DORED, A S C., is stationed in Berlin where he is active as one of Paramount's newsreel cameramen. The "hottest news spot in the world today," Dored terms it.

•

GEORGE MANDL, A S C., will shortly fly to Venezuela where he will photograph a series of pictures for the Princeton Film Center to be directed by Gunder von Fritsch.

•

(Continued on Page 108)

. . making way for tomorrow

THE STUDY of television's photographic and lighting needs presently being undertaken by the American Society of Cinematographers is typical of this organization's alert and forthright aims in aiding the motion picture industry to embrace a new and highly promising phase of picture making.

It is a foregone conclusion that the television of tomorrow will consist mainly of filmed programs and that Hollywood studios will supply the bulk of these films. Early use of films on video demonstrated that not every kind of film is acceptable for the medium, that films will have to be specifically made for television, films involving different lighting techniques and, especially, careful control over quality of the projection prints.

The A. S. C.'s present efforts toward exploring television's film needs and in developing a filming technique beneficial to electronics engineers and the film industry alike is a laudable effort that deserves the wholehearted cooperation of both industries.

—A. E. G.

★

★

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ON THE COVER

ROBERT BURKS, A.S.C. (directly behind camera), shoots a closeup for Warner Brothers' production "The Fountainhead." From left to right are Earl Ellwood, Lew South, James Bell, Robert Burks, Patricia Neal, Raymond Massey and King Vidor.

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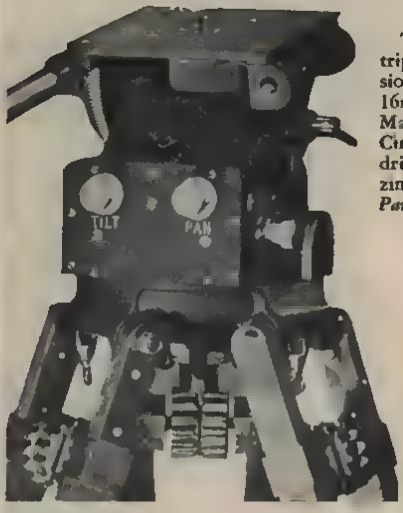

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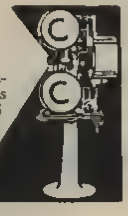

CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month

★ ★ ★ ★ ★ ★ ★ ★

Columbia

• CHARLES LAWTON, JR., 'Tokyo Joe," (Santana Prodn.) with Humphrey Bogart, Florence Marley, Alexander Knox, Sessue Hayakawa. Stuart Heisler, director

• SOL POLITO, "Anna Lucasta,' (Security Pictures) with Paulette Goddard, Broderick Crawford, Bill Bishop, and Oscar Homolka Irving Rapper, director

Independent

• LEE GARMES, 'Roseanna McCoy," with Farley Granger, Joan Evans, Charles Bickford and Raymond Massey Irving Reis, director

M-G-M

• ROBERT PLANCK, Madam Bovary," with Jennifer Jones, Louis Jordan, James Mason and Van Heflin Vincent Minnelli, director

• JOE RUTTENBERG, "Forsyte Saga,' with Greer Garson, Errol Flynn, Walter Pidgeon, Robert Young and Janet Leigh Compton Bennett, director

• HAROLD ROSSON, "Any Number Can Play," with Clark Gable, Alexis Smith, Wendell Corey, Audrey Totter and Frank Morgan. Mervyn LeRoy, director.

• ROBERT SURTEES, "That Midnight Kiss,' with Kathryn Grayson, Mario Lanza, Jose Iturbi and Keenan Wynn

• JOHN ALTON, "Border Incident," with George Murphy, Ricardo Montalban and Howard DaSilva. Anthony Mann, director

• PAUL VOGEL, 'Scene Of The Crime,' with Van Johnson, Gloria DeHaven, Tom Drake and Arlene Dahl. Ray Rowland, director

• GEORGE FOLSEY, "Operation Malaya," with Spencer Tracy, James Stewart, Lionel Barrymore, Sydney Greenstreet, John Hodiak and Gilbert Roland Richard Thorpe, director

• HARRY STRADLING, "Intruder In The Dust," with Claude Jarman, Jr., Clarence Brown, director

• ROBERT PLANCK, "The Red Danube," with Walter Pidgeon, Peter Lawford, Ethel Barrymore, Janet Leigh, and Angela Lansbury George Sidney, director

Paramount

• STUART THOMPSON, "Dear Wife," with William Holden, Joan Caulfield, Billy deWolfe, Mona Freeman and Edward Arnold Richard Haydn, director

• DANIEL FAPP, "Red, Hot and Blue," with Betty Hutton, Victor Mature, June Havoc and William Demarest John Farrow, director

• CHARLES LANG, "Rope Of Sand," (Hal Wallis Prodn.) with Burt Lancaster, Paul Henreid, Claude Rains and Peter Lorre William Dieterle, director

• GEORGE BARNES, "Thalma Jordan," (Hal Wallis Prodn.) with Barbara Stanwyck, Wendell Cory and Paul Kelly Robert Siodmak, director

• JOHN SEITZ, "After Midnight,' with Alan Ladd and Wanda Hendrix Mitchell Leisen, director.

(Continued on Page 108)

Biggest News of the Year

MITCHELL* 16 AVAILABLE NOW AT NEW LOW PRICE

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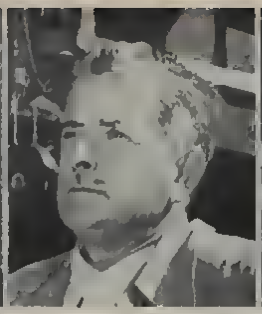

WILLIAM DANIELS, A.S.C.
"The Naked City"

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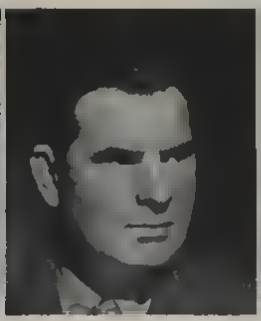

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"Joan of Arc"

WINTON HOCH, A.S.C.
"Joan of Arc"

1948 NOMINEES

for achievement awards in cinematography

ELEVEN directors of photography representing nine outstanding motion pictures have been nominated by members of the American Society of Cinematographers and directors of photography in the Hollywood studios as contenders for Academy Awards for achievement in photography for 1948. These nominees directed the photography on five black and white and four color productions as follows:

Black and White

Joseph August (deceased), "Portrait of Jennie" (Selznick),
William Daniels, A.S.C., "The Naked City" (Universal-Inter.)
Charles B. Lang, Jr., A.S.C., "A Foreign Affair" (Paramount),
Ted McCord, A.S.C., "Johnny Belinda" (Warner Brothers),
Nick Musuraca, A.S.C., "I Remember Mama" (R.K.O.),

Color

Charles G. Clarke, A.S.C., "The Green Grass Of Wyoming" (20th Century-Fox),
Robert Planck, A.S.C., "The Three Musketeers" (M-G-M)
William Snyder, A.S.C., "The Loves of Carmen" (Columbia).

(Continued on Page 98)

The RED

By HERB LIGHTMAN

THIS giant, 300 amp., water-cooled arc spotlight was specially built to provide a spot of light for the brilliant Red Shoes Ballet sequence. The British Mole-Richardson Company and Taylor Hobson Cooke's engineers contributed to its design and manufacture.

A HIGHLIGHT is the sequence in which a pile of newspapers swirl and dance, ultimately emaming the form of a man dancing in unison with the ballet star

"THE RED SHOES" is a happy marriage of two great arts, the ballet and the motion picture. Produced in London, England, by The Archers" (Michael Powell and Emeric Pressburger), who in the past brought "Stairway to Heaven" and 'Black Narcissus" to the screen, it is a visually beautiful and dramatically stimulating film. A good bit of its pictorial effect is due to the outstanding Technicolor photography of Jack Cardiff, A.S.C., winner of last year's Academy award for his lensing of 'Black Narcissus.

'The Red Shoes' is a backstage story of the world of the ballet, a modern romance with fairy tale overtones. It began in the mind of ace scenarist Emeric Pressburger who decided several years ago that he would like to make a film based on the Hans Christian Anderson story of the same name. The high point of the picture is a ballet interpreting the story of the girl who is bewitched by her red dancing shoes, and a direct parallel is drawn between her and the heroine of the modern story.

Powell and Pressburger who, under the name of The Archers,' comprise Britain's foremost team of creative cinema artists, decided that this ballet must be presented in an entirely new way. In its primary sense, ballet is the art of telling a story by dance and mime to a musical accompaniment. Its whole essence is fluidity, and in previous ballet films the camera had fallen somewhat short of transfering this mercurial quality to the screen.

The Archers" decided that their ballet should be presented as a complete entity within the framework of the film. It should run for under fifteen minutes, as film audiences tend to become restless at any longer interruption of the plot. And the ballet should be filmed without any cutaway shots, so that the motion picture spectator could imagine himself actually sitting in Monte Carlo Opera House watching it on the stage.

The ballet sequence was planned long before production started on the film, and it was decided to work this sequence out first in the abstract form of the color cartoon. First the whole ballet sequence was worked out by production designer Hein Heckroth in the form of 120 full size color sketches. These were then photographed and assembled in sequence, with each separate camera angle in its proper place.

Next, composer Brian Easdale tailored his original ballet score to exactly fit the cartoon ballet. When this juxtaposition of picture and music had been okayed by choreographer Robert Helpmann and the production staff, the music was recorded by Sir Thomas Beecham and the Royal Philharmonic Orchestra. With sound and picture joined, 'The Red Shoes" ballet was complete in cartoon form. The actual photography of the ballet presented a difficult challenge to director of photography Jack Cardiff, A.S.C., in that each shot had to match exactly with its cartoon counterpart, the dancers performing to a playback of Beecham's recording.

As each shot in the ballet was completed, it was exchanged for the corresponding cartoon scene, and the sketches slowly began to give way to live action sequences. The production staff constantly checked the composite reel to see how filming of the ballet was progressing.

In the film, the ballet of 'The Red Shoes" is represented as being performed on a conventional stage—but it is so very definitely a cinematic ballet that it could never actually be performed on a theatre

SHOES

ultimate in choreo-photography done in Technicolor by Jack Cardiff, A.S.C.

THE FIGURE gradually metamorphoses into a real live partner of the dancer and together they dance through a scene that is as brilliantly photographed as it was conceived

stage It was created to utilize the full scope and wizardry of the camera, and it does this so successfully that a new word, 'choreophorography,' has been coined to describe the fusing of the two separate arts

The ballet includes an impressionistic sequence in which the camera mirrors the ballerina's subconscious mind As she dances, the characters in the ballet identify themselves with the personalities involved in her own life The shoemaker is synonymous with the ballet impresario who fosters her ambition as a dancer, while her lover sympolizes the young composer who wrote the music for the ballet and whom she eventually marries

The ballet sequence is a fluid symphony of music, color and motion It is packed full of camera effects which, however, are so smoothly executed that they rarely call attention to themselves as such As a visual spectacle, the ballet of "The Red Shoes" is well nigh in a class by itself

The groundwork for 'The Red Shoes" was being laid while Cinematographer Cardiff was hard at work shooting Black Narcissus" All through the filming of that production he was busily reading up on the ballet, attending performances at Covent Garden, London, and rehearsals at the Sadler s Wells school Until then no ballet enthusiast, he slowly became imbued with the spirit of the art and began to make slow-motion tests in black and white

"It had long been agreed that Ballet was a pure stage medium,' Cardiff relates, describing the dilemma which presented itself to him "Here was a theatre art created for viewing through a proscenium, and never intended to be seen from behind or enlarged to enormous individual close-ups and spiced up with trick shots Yet—although the purists said that ballet must be honestly recorded without cinema stunts and cunning aids to dancers so that they could jump incredibly high with perfect *balloon*—it was agreed that just recording ballet newsreel fashion would be wrong Otherwise, why use film?

Having seen the tesrs I made we agreed that any tricks, such as slow motion, fast motion, or accentuating angles, should be so discreetly used that they would not be noticeable Nevertheless, to interpret the choreography as though the audience was in the theatre, it was quite necessary for the camera to be a little dishonest Strangely enough, even straightforward movements look wrong sometimes at the normal speed of twenty-four pictures per second It proved necessary to use a little faster or slower camera speed"

In spite of Cardiff s logic in explaining his camera treatment, he still had to cope with die-hard ballet purists who objected to this subtle encouragement with the camera We recognize a ballerina in the theatre by her own honest dancing, unaided by tricks, they would say, "and now you can make a dancer do literally *anything*—dance on a cloud, do a hundred pirouettes in one go, make some gargantuan bounds that would make Nijinsky hysterical; yet this Olympian virtuoso might, in reality, be a third-rate dancer!"

In answer to this poser, Cardiff says ' Film adaptation of Baller must be regarded as a separate art The purists must not count pirouettes and question the truth of faultless execution They must recognize the fact that just as a film can use a dummy to fall over a cliff, or a model train to crash to destruction, so it must be allowed full expression in what is a perfect subject for the abstract stylization and dream fantasy that a film can so well express."

From the technical standpoint, Cardiff was confronted with the problem of lighting huge stage and theatre areas for Technicolor photography, plus the necessity of finding a spotlight that would burn through the general set lighting to simulate an authentic stage spot effect He

(Continued on Page 99)

CINEMATOGRAPHER Jack Cardiff is noted for his frequent friendly huddles with players during which he explains his photographic problems and secures their cooperation toward a better screen result Crouched beside his Technicolor camera, Cardiff chats with stars Robert Helpmann Moira Shearer and Leonide Massine

Firelight That's Real

Lee Garmes, A.S.C., scores unusually realistic lighting effects in "Roseanna McCoy," using the Toland & Hoge electrical firelight flasher.

By FREDERICK FOSTER

FIG 1—This "Rube Goldberg" effect is the first really successful device for producing the true effect of firelight in motion pictures. Designed and assembled at the Samuel Goldwyn studios by the late Gregg Toland and Ralph Hoge, the unit consists of the flasher (center) and two bright metal reflecting units before which are hung twenty-four 1000- and 2000-watt lamps.

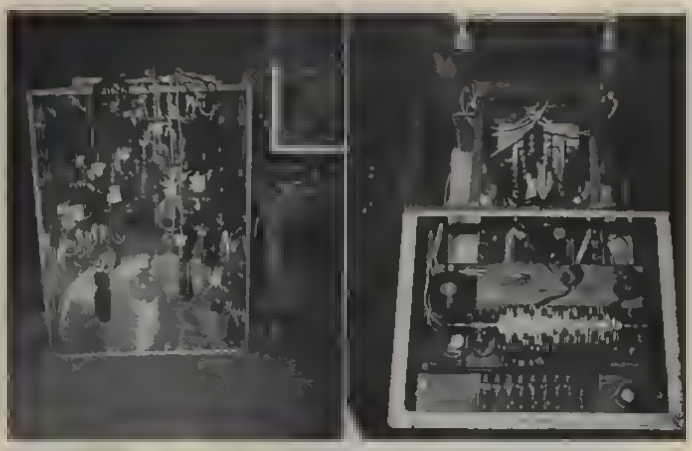

FIG 2—The lamps are deliberately suspended at various levels in order to produce flickering light from various angles, similar to that from a fireplace. The order, frequency and duration of light flashes from the lamps may be controlled depending upon the type of fire to be simulated.

FIG 3—Top view of flash-activating unit. At bottom is revolving cylinder with 24 contact points touching the cylinder. These excite 24 solenoids which in turn send current momentarily to the lamps hung before the semi-circular reflector on the set. As cylinder rotates, contacts "make and break."

THE ILLUSION of flickering light from a fireplace is something that effects men have sought to perfect for years, but it remained for the late Gregg Toland and Samuel Goldwyn's head grip, Ralph Hoge, to achieve it with an improvised lighting rig that might have been designed by Rube Goldberg. It is said to be the first gadget that actually creates the sort of light that a real fireplace produces; all the other effects used up until now produced a flickering light that lacked realism—the irregular flicker with constantly varying intensity that we really see if we study the light given off by a log fire.

Toland first used his invention in filming Goldwyn's Academy Award winner, "Wuthering Heights," and although it also was used later with equal success in "Enchantment," it has remained for Lee Garmes, A.S.C., to give this unique lighting effect its supreme test in Samuel Goldwyn's "Roseanna McCoy."

Much of the charm as well as the dramatic impact of "Roseanna McCoy" is due to the effective lighting of Garmes, who has set as a goal for this picture the most natural lighting it is possible to achieve with present-day equipment. Much of the action in "Roseanna McCoy" takes place at night or at dusk, or in the dimly lit interiors of mountaineer's cabins. Garmes has sought to keep the lighting perfectly natural at all times and devoid of any lighting license of any kind. Light is concentrated on players' faces, but it's a subtly subdued light, and there is never distracting over-illumination in the backgrounds to divert attention.

Garmes also is using "pin-point" apertures to achieve great depth of focus on all shots—something on which Toland specialized and which he had planned for this picture before he passed away. This treatment gives not only depth but brittle crispness to the scenes lit in low key—enhancing the subdued lighting by making objects stand out with greater clarity. There is less strain on the eyes in watching these scenes on the screen, too.

With so many of the interiors staged within two mountaineer's cabins, firelight naturally became the dominant problem inasmuch as "natural lighting" on these sets would mean in most instances light from the fireplace. To make this firelight appear completely natural, Garmes has brought Toland and Hoge's effects device on the sound stage and put it to use. It consists of three units, as shown in Fig. 1, —the flasher (center) and the flashing reflectors at either side. In use, the flasher may be located in some remote corner of the sound stage while the flashing reflectors are set up on or close to the set, depending upon the effect desired. The latter, shown in detail in Fig. 2, consists

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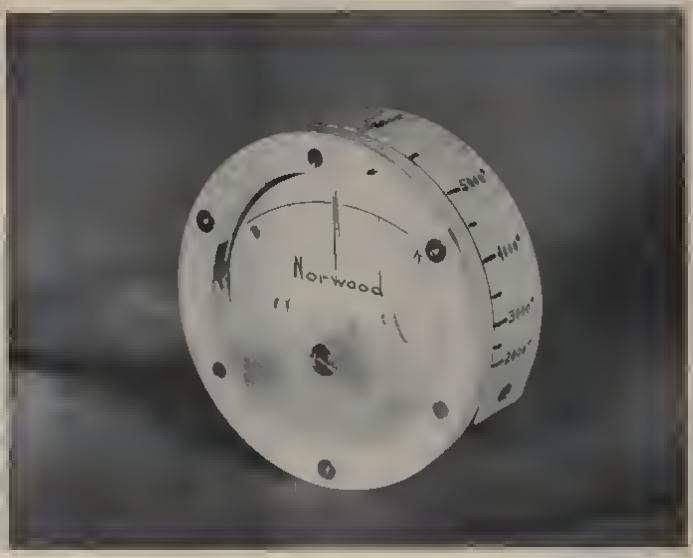

TEST MODEL of newly developed Norwood Color Temperature meter which has undergone exhaustive tests in use with all types of color films indoors and out. Compact and light in weight, meter reads color temperature directly. Detachable scale plates also afford direct readings in terms of correction filters required and for the various types of color films

CAPTAIN Don Norwood who also introduced the Norwood Director exposure meter, shows pocket-size feature of meter. It is estimated new meter will sell for about same price as average exposure meters

A New, Vest-pocket Color Temperature Meter

By CAPTAIN DON NORWOOD

SEVERAL YEARS ago, in 1939-40 to be exact, I had the pleasure of introducing, in the columns of the American Cinematographer, a new and valuable type of exposure meter. That meter was the Norwood Director. It represented the culmination of several years of prior research and development in my laboratory. The meter apparently filled a distinct need, because now many tens of thousands of those meters have been manufactured and are giving excellent service to photographers.

At this time I again take pleasure in introducing, in the American Cinematographer, another new meter. This meter is a device for measuring color temperature of illumination. This meter also is the result of considerable intensive research. It offers a number of practical advantages not found in any similar device.

Professional cinematographers are well aware that the color balance of illumination is a factor of considerable importance. In the case of black and white films, variations in color temperature may cause quite noticeable variations in film results. In the case of color films the color temperature is a decidedly critical matter. Color temperature must be exactly right to match the color balance of the color film if satisfactory results are to be attained.

The above described situation points to the need for a good practical color temperature meter. I have developed a meter which seems to me to just fill the bill. The illustration (above right) shows a ¾ view of the complete meter. The instrument is in the shape of a disk, being 2 9/16 inches in diameter and only 1 inch in thickness. A number of elements are installed in that compact disk. The galvanometer dial may be seen at the left. The color temperature scale plate may be seen on the circumference of the disk. A color valve is located on the far side of the disk. This color valve is operated when the circumferential rim, which carries the color temperature scale, is turned. Inside of the disk is a galvanometer movement, a photo-voltaic cell, and color filters.

I will describe some of the requirements of a good practical meter for this purpose, and show how the Norwood Color Temperature meter meets those requirements.

First, the instrument must be quite accurate. This fact rules out the visual type meter, since that type depends on personal color vision. Color vision may vary from individual to individual, and varies in any given individual according to circumstances, which makes it undesirable for use as a reference standard. The Norwood Color-Temperature meter makes use of a photo-voltaic cell, a galvanometer, filters and light valves. It is quite impersonal, and highly accurate.

A practical color temperature meter must be easy to operate. The Norwood C-T meter is operated by pointing it toward the light source, and rotating the light valve until the galvanometer needle points to zero. At this time the color temperature may be read on the circumferential scale, adjacent to the index line. The null-reading position of the galvanometer

(Continued on Page 96)

TEMPORARILY chairmanned by Stanley Cortez (seated), A. S. C.'s Television Research Committee includes (left to right) Lee Garmes, George Folsey, Karl Struss, Victor Milner, Charles Rosher, and Arthur Miller and Hal Mohr, not pictured—all members of the A. S. C.

A. S. C. Inaugurates Research On Photography For Television

Eight-man research committee begins study of television's lighting and photographic requirements.

By VICTOR MILNER, A.S.C.

ANTICIPATING the role motion pictures and particularly directors of photography ultimately will play in television, the American Society of Cinematographers last month appointed an eight-man research committee for the purpose of studying and reporting on equipment and techniques presently employed in both live and film television broadcasting. Temporarily chairmanned by Stanley Cortez, A.S.C., the committee includes Victor Milner, Karl Struss, Hal Mohr, George Folsey, Charles Rosher, Lee Garmes, and Arthur Miller—all members of the A.S.C.

Anticipating that closer cooperation between television and motion picture technicians is inevitable and because there's a rising opinion that the latter industry's directors of photography are the logical men to aid TV in improving lighting and video camera techniques, members of the A. S. C. have taken the initiative, just as they did in the early days of the motion picture industry's transition from silent to sound films and, later with the introduction of color to motion pictures.

Recently it has been implied that Hollywood technicians have attempted to intrude their techniques on television production. The point was made again at the recent Academy of Television Arts and Sciences' awards presentation ceremonies when one spokesman voiced his disapproval of what he termed the 'intrusion' of the motion picture industry and its film technicians in television. The Society's research committee wishes to reassure television men that their aim is to help rather than hinder them.

Happily, the Society's interest in television is being accepted with enthusiasm by most of the electronics engineers of Hollywood's television industry. Top men in NBC's television staff recently appeared before members of the A. S. C., at one of the Society's recent technical meetings, enlightening them on television's aims as regards photography and the production of films for the medium. More recently, A. S. C.'s research committee was invited to visit NBC's television studios in Hollywood, where demonstrations of the type of motion picture photography most suitable for television were presented. Also demonstrated were the results on the television screen of motion picture films improperly printed for the medium.

NBC engineers demonstrated the network's modern processing and projection equipment for telecasting of both 16mm and 35mm motion picture films. At the same time, the engineers demonstrated on closed circuits the maximum reception quality that may be achieved with Kinescope film productions—motion pictures made of live television programs photographed in 16mm directly off the kinescope tube.

The committee's research program include's a series of analytical studies to determine the best type of photography suitable for TV transmission, the best types of shots for television films, the suitability of current studio lighting techniques to the production of live TV shows; and the extent to which fundamental feature film techniques can be utilized in the production of motion pictures for television. The application of process photography and background projection in live shows will also be explored.

The actual photography of live shows will also be studied. The Society members will probably undergo a brief instruction course in the operation of the RCA image orthicon television studio camera, so that they shall be better informed on the scope

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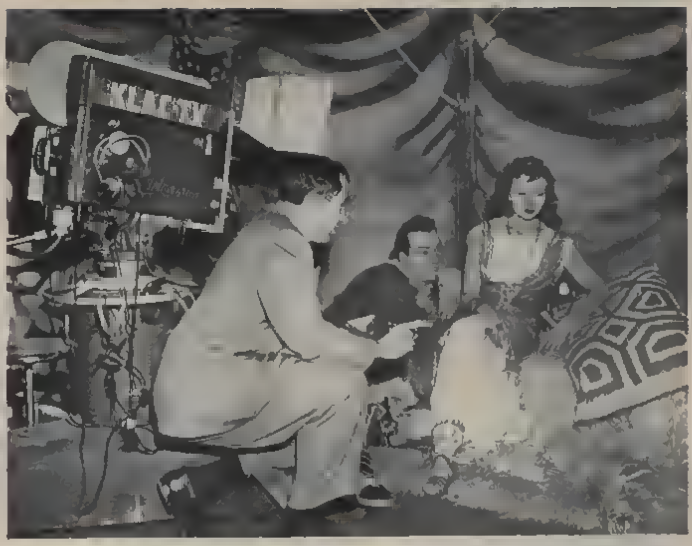

KLAC-TV's cameraman, John DeMos was formerly a newsreel photographer and cameraman on commercial film productions and brings to West Coast television a fresh approach to TV camera technique. His coverage of grid events in Los Angeles last season has been hailed as some of the best TV photography of football to date

The Cinematographer's Place In Television

By JOHN De MOS

Television Cameraman, KLAC-TV

TELEVISION, far from threatening the security and future of Hollywood's motion picture photographers, actually will open up broad new horizons for many of them. In addition to the renewed studio production activity that will follow, when the use of films in television really hits its stride, TV studios will undoubtedly draw upon Hollywood cinematographers to man its cameras and to bring to the industry their broad knowledge of photography and lighting.

Lighting, of course, is the one big problem of TV which is being kicked around not unmercifully by some of the TV men themselves and by TV's armchair critics. The fact is, however, that even where improved lighting is in effect, it is still possible for the picture to turn out bad on the receiver screen because of several factors. For one thing, the electronics engineer at the studio holds the success of any TV program's pictorial quality in the palm of his hand — virtually between thumb and forefinger—as he twists the tiny dials that raise or lower contrast or balance the overall contrast of the picture. Add to this the impulse of the average receiver owner to tamper with the controls of his set and it is easy to see that what goes into the Kinescope tube *good*, can come out *bad* at the receiving end.

Television producers are generally agreed that the great need today is for experienced motion picture cameramen, lighting engineers and motion picture directors, and as soon as the business justifies the cost, these men will be sought for the important contributions they can bring to the industry.

I feel fortunate in being among the first motion picture cameramen to experience the transition from a photographic to an electronic camera. I had

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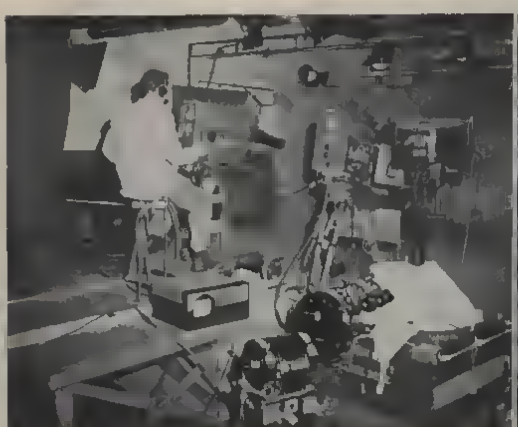
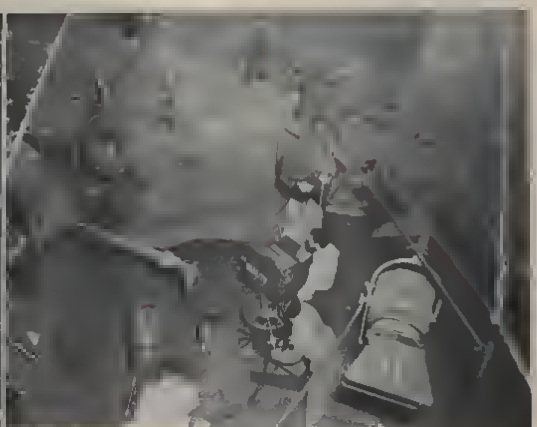


AMONG improvements recently introduced at KLAC-TV are regular motion picture lighting equipment, dimmers and other lighting controls. Front fill lights are used on the camera and position of overhead lights are remote controlled at an off-stage point.



HERE is an overhead view of KLAC-TV's lighting equipment—standard motion picture lighting units mounted on tubular metal rigging above the stage. With this equipment KLAC-TV is achieving excellent modeling and multi-dimensional effects in lighting studio productions.

New Lens Testing Method May Improve TV Picture Quality

RCA develops method of analyzing and rating ability of various types of lenses to show picture detail.

By R B HARTWELL

A NEW DEGREE of realism in television may result from a new method of measuring contrast characteristics of both optical and electrical lenses. Developed by Otto H Schade, advance development engineer of the Tube Department of the Radio Corporation of America, the method is also applicable to contrast measurements for different types of photographic film and television screen materials.

Employing what is essentially a television pickup and reproduction system, it provides the television industry with the first known practical method of analyzing and rating the ability of various types of lenses to show picture detail.

For industries developing or using image-forming devices, this method means the end of guesswork and, for the first time, permits objective selection of lenses that will produce the best results in various types of systems. Data on the imaging power of the human eye has been incorporated in the procedure for plotting the overall response of lenses and other elements so that the practical value of improvements in picture quality can be determined in terms of the observer's ability to detect them.

The theoretical values by which lenses have been rated heretofore, Mr Schade explained, are based on their limiting or highest power of resolution—that is, the greatest number of lines of picture detail per millimeter which they can focus on film or viewing screen.

However, useful resolutions for photography and television are limited, respectively, by the response of photographic film and the width of television frequency channels. To improve picture detail within these limitations, the research engineer in these fields must strive for sharper contrast of light and dark picture elements within lower ranges of resolution—about 50 lines per millimeter in photography, and one-fifth as many lines in television. The system developed by Mr Schade affords the first practical means of determining the contrast response of lenses in these ranges, or in any specified range from zero to the limiting resolution.

The equipment chain employed in the system, he explained, consists essentially of a specimen mount, a lens mount, a microscope, a television camera, a television picture tube or kinescope, and an oscilloscope, arranged in that order. A test pattern made up of a series of vertical and horizontal lines of diminishing size and spacing is mounted before the lens to be tested or rated, and a greatly reduced image of the pattern is produced. The microscope enlarges this image before it is picked up by the television camera, providing a large, easily studied television image on the kinescope, and a large, acurate "trace" or wave-form image on the oscilloscope. The latter image is formed by feeding a portion of the electrical signal from the television camera to the oscilloscope.

Using this trace or wave-form as a basis, Mr Schade has worked out a system for plotting curves on a chart to show the contrast or detail response of a given lens at any degree of resolution.

Similar ratings for the electrostatic or electromagnetic lenses used in television camera tubes can be charted by an application of the same principle, while ratings for similar lenses in kinescopes are established by a modification of the system employing RCA's "flying spot" scanning tube to analyze the kinescope image.

"It is theoretically possible to compute the detail contrast of a lens at any resolution," Mr Schade said, "if we know the size and light intensity distribution of the light spot formed as the image of a point of light. The finer the spot, the better the detail contrast.

"However, since this spot assumes all kinds of queer shapes, particularly in the case of optical lenses, when it is moved over the picture area, measurement of its size and light distribution is very difficult. Even when such measurements can be made, there is the problem of using the spot to generate a picture before we can determine how it affects detail contrast.

"It remained for television to provide the practical means for obtaining these data, which are needed, not only by television itself, but by all activities concerned with image-forming devices. A television system is actually a continuously tracing micro photometer in which a tiny "scanning aperture"—the electron beam—analyzes the image along hundreds of parallel lines, translating light intensity into electrical currents which can be made visible again as an image on a kinescope or as a

(Continued on Page 102)

The realism of a simple scene, such as being televised here, may depend as much upon the camera's optics as it does on lighting and other factors, according to recent findings by engineers who have devised a new means of testing contrast characteristics of the lenses used in television.

SINCERE CONGRATULATIONS

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Sometimes, when you're taking indoor movies of a baby, or even of an adult, it's pretty hard to get them to relax.

For as soon as you throw on your flood lights, they start to get tense—to fidget and wiggle under the glaring lights.

There's one way, however, to help overcome this reaction And that's to use super-fast Ansco Triple S Pan Reversible Film For with this fast film in your camera, you can use less artificial lighting or move your lights farther back.

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Triple S Pan has a long, smooth gradation scale Because of this, your movie scenes will be complimented for their fresh, professional look Let your dealer tell you more about Ansco Triple S Pan Reversible Film **Ansco, Binghamton, N. Y.** A Division of General Aniline & Film Corporation "From Research to Reality"

TIPS ON TITLES Next time you take pictures of your child, try printing the title on a large piece of cardboard—have your child walk in with the cardboard under her arm, and then hold it up in front of the camera. Makes a very effective title run.

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TRIPLE S PAN FILM

SHOWING the new Silvertone movie sound kit in use. Projector speed is kept in sync with wire recorder by means of stroboscope disc and light reflected from screen to disc. In operation, flickering light beam from projector is reflected from screen by small mirror back to another mirror on recorder, thence to strobe disc on turntable (see dotted lines). Operator adjusts projector speed until strobe disc segments appear stationary, indicating both machines are in sync.

Synchronized Sound For Home Movies

New method employing mirrors and a stroboscope insures absolute synchronization of home recorded sound with 8mm. or 16mm. movies.

By BERNARR WIXON
Radio Division, Sears, Roebuck & Co

WE MADE our silent camera talk! And we did it for only a fraction of the cost usually associated with sound projection. Putting sound into home movies has always been a highly desirable but almost impossible task, but the growth of wire recording gave us a clue. Why not synchronize our silent projector with the sound from a wire recorded script? Sounds simple? Well! The main problem was to put feet of film and revolutions per minute on a comparative basis, and since the wire recorder runs at a constant speed, the projector has to be synchronized to the recorder. That briefly is what lead to the development of the Silvertone Home Movie Sound Kit.

The simplest method for checking the speed of any rotating mechanism is the use of the stroboscope, a flat disc with a number of black and white segments around its perimeter, such as commonly used for testing speed of phonograph turntables. This disc, when revolving and illuminated by an intermittent light, such as an alternating current incandescent lamp, will appear motionless when travel speed of the segments correspond to the light flash interval.

We found that the flickering light issuing from a projector lens could also be utilized for this purpose when the stroboscope is designed with respect to the projector flicker interval. We found that by reflecting this light back from the screen by means of a small mirror, so that it would be made to fall upon the stroboscope disc by means of a second reflecting mirror, it would net the same speed controlling result. However, in this instance, we place the strobo disc on the recorder turntable which already has a fixed speed, and use it to keep in check the speed of the projector by adjusting the projector speed until it coincides with that of the recorder. That took care of operating both projector and recorder in sync.

Our next problem was how to get both film and sound recording to *start* simultaneously or in sync. This was solved by attaching to the film a generous leader strip and punching three cue marks at one end with a pin, each 12 frames apart. This gave us a 'Get ready', 'Get set', 'Go' indication on the screen. When the 'Go' dor flashed on the screen we started the recorder and adjusted the speed control on the projector until the stroboscope disc looked like it was standing still. We then maintained this condition by readjustment of the speed control. The better grades of projectors will run very steady and require little attention. Thus you can concentrate on the recording, or film, depending upon whether you are making the sound track or enjoying the results.

Take your movies at your convenience, edit them, prepare a script, or commentary, and make your own 'talkies" by putting the sound on wire. One person can actually do the job, but the task will be easier and lots more fun if you have a couple of helpers. For example, one person on synchronization, one handling scripts, another assisting with sound ef-

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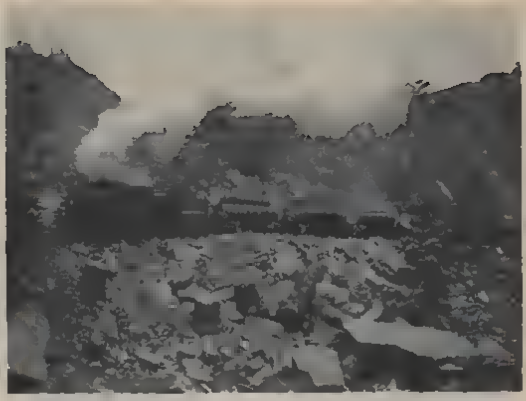
THE professional results obtained by amateur film producer, Ray Maker, are a product of painstaking preparation. He is shown here putting finishing touches on his midget train the wrecking of which is one of high spots in his picture. "Dark Timber."



HOLLYWOOD'S best special effects men have never surpassed Ray Maker in the effectiveness of this miniature scene which was staged in an old Oakland Calif. rock quarry. Maker built the model engine and cars himself.

An Amateur With Professional Ideas

Although his 16mm. movies display every professional technique, Ray Maker, Oakland, Calif., garageman insists he's still an amateur movie maker.

By ARTHUR ROWAN

RAY MAKER was born in Sacramento, California, 52 years ago, knows mining and pioneer history, has never been in professional movie work and has no relatives in the business. He once worked as a movie projectionist and that started him on his hobby of making movies.

During the past ten years Maker has completed ten 16mm. movies, eight of them in color and sound. His most recent production tops them all. Titled "Dark Timber," it is a pioneer logging story about a villianous lumberman who seeks to control the industry regardless of cost, blowing up railroad trestles, if necessary, in order to keep out competition.

The production of this picture demanded use of all the latest Hollywood production techniques except, perhaps, background projection—possibly the only one Maker has not attempted thus far. But he will, eventually, and successfully, too. Maker is an example of the real dyed-in-the-wool amateur movie maker—the fellow who avidly studies movie making techniques from the screen, reads everything he can on professional motion picture production techniques, then sets about to reproduce the same techniques with 16mm. equipment. The fact Maker has been avidly turning out amateur movie films for 15 years proves that there's endless enjoyment in the hobby once you turn to serious work instead of simply shooting movies hit or miss.

Maker writes all his stories, directs, builds scenery and miniatures, assembles actors from among his friend and gets more ambitious with each new success. His studio for interior shots is at his home, where his wife often assists as script girl and camera operator. Screen actor Gregg McClure, featured in "The Great John L," is said to have played his first movie role in one of Ray Maker's early 16mm. films.

After completing a script, Maker usu

(Continued on Page 97)

RAY MAKER (plaid shirt, cigar, far right) gathers his cast and technicians from within his wide circle of friends. His wife acts as script girl and camera assistant. Maker filmed "Dark Timber" with a battery driven Auricon camera and enlisted aid of two friends to also cover the action with their cameras while shooting the spectacular train wrecking scene.

Kodascope Projectors

Kodascope Sixteen-10 Projector Excellent optical system—fine, fast Kodak 2-inch f/1.6 Ektanon Projection Lens and brilliant 750-watt lamp. Accepts other lenses, other lamps (to 1000 watts) for "tailor-made" projection. The price—only $147.50.

Kodascope Sixteen-20 Projector The same mechanical and optical excellence, the same lens-lamp versatility as Sixteen-10—plus extra ease in use...luxury, "push-button" operation. $245, with Standard Carrying Case; $261.50, with Projecto Case.

...for Superb 16mm. Motion Picture Showings

...take corner-to-corner sharpness, for example

Sharp in the center ... sharp in every corner! The superb, over-all focus you get with a 16mm. Kodascope projector is to a large extent the result of the Kodak Field Flattener, a unique optical device integral with the Kodak 2-inch f/1.6 Ektanon Projection Lens—standard equipment with all 16mm. Kodascope projectors. The Field Flattener corrects the light rays that form the outer edges of the picture so that they come into the same plane of focus as those forming the center.

You'll see the results on your screen—*better, crisper, more uniform rendition of your movies!*

Important as it is to the proper projection of 16mm movies, the field-flattening element that is part of the standard lens regularly supplied with 16mm Kodascope projectors is but one of many reasons for making a Kodascope projector *your* projector.

Another is optical versatility—both of the "Sixteens" illustrated above come equipped with 2-inch lenses and 750-watt lamps . . . ideal for average projection conditions. But if you plan to show your movies under unusual conditions—long "throws" in spacious auditoriums, or very short "throws" in small rooms—you can buy your projector "tailored" to your needs with your choice of several other lenses and lamps so that screen areas and brilliance are exactly *right* for the size and seating of your audiences. All standard and accessory Kodak Projection Lenses are *Lumenized*—ultrahard coated at all glass-air surfaces for better, brighter movies. Whatever your lens-lamp selection, screen results will be unsurpassed.

You'll also like the ease of operating a Kodascope projector—adjustment controls are simple and positive in action . . . conveniently located. Threading is handy, too—sprockets and gate are wide-opening, easily accessible.

Trimly handsome in appearance, rugged in operation, Kodascope projectors are outstanding performers on every count. Better plan to see them soon—at your Kodak dealer's.

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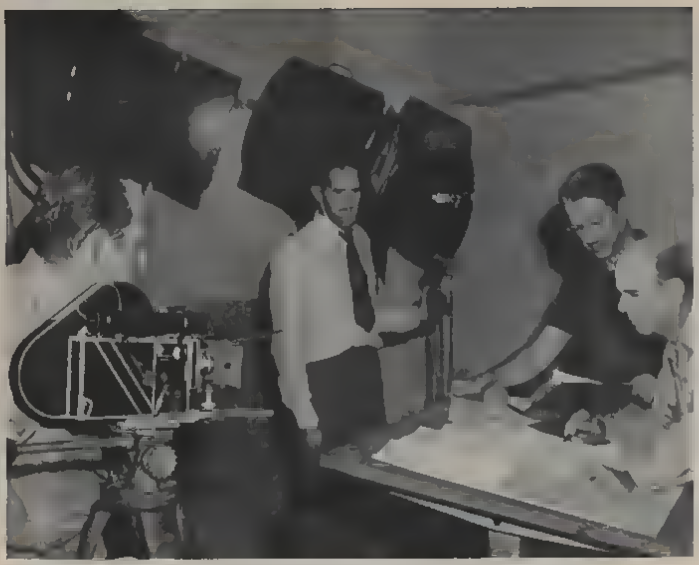


IT IS important to have the cameraman present on all important pre-production conferences. Looking at the story in terms of camera angles, lighting etc., he can suggest many short cuts that not only will save money but enhance the production, too.—Photo courtesy Rockett Pictures

Planning The 16mm Commercial Film

The first in a series of articles dealing with making of 16 mm. commercial films points up the importance of careful production planning.

By CHARLES LORING

PRODUCTION planning is at least as important to the 16mm. commercial film producer as it is to the executive producer in Hollywood — perhaps more so, since the commercial producer rarely has at his command the budget and shooting schedule alloted to even the humblest Hollywood quickie. Both time and money are usually limited in the shooting of the average 16mm commercial, and it is intelligent production planning more than any other one element that spells the difference between profit or possible loss to the producer.

Production planning of a commercial or industrial feature should begin with the very first conferences between producer and client. Certain basic decisions must be agreed upon before even the most rudimentary script can be written, namely— how much money the client will allot for the production, and how much time will be available to produce the film. Clients are prone to underestimate both factors, with resultant strain to the producer, so it is well to get these matters settled before any elaborate production plans are made.

Once these basic decisions are settled the producer will know just how much production value he can include in his script and will instruct his writer accordingly. The writer will then know whether he can go ahead and write an epic with a "cast of thousands," or whether he'll have to hold his imagination in check.

All through the writing of the script, the producer should work very closely with the writer and director to make sure the screenplay is following the production plan agreed upon. Even veteran screenwriters, when left to their uncontrolled devices, have a way of writing the producer into a corner. They will, for example, concieve sequences that sound perfectly wonderful on paper but which would require the facilities of M-G-M to stage convincingly on the screen. Or, if they are less accustomed to the limitations of 16mm filming, they might write in a sequence similar to one they have seen in a Disney extravagnaza—something that required a whole staff of special effects experts even for the great Walt to produce.

In order to establish a relationship between budget and production value as set down in the script, it is necessary to review the elements involved. The first factor to be considered is whether the picture is to be shot in color or black and white. Color is more effective than black and white, but it is also more costly in terms of raw stock and the extra light required for interior set-ups.

The second element to be taken into consideration is that of sound. If the picture is to be a sound film, an extra 10 to 25 per cent is automatically added to the budget. Narrated sound is usually fairly easy to negotiate, since there are any number of laboratories that provide a complete music and recording service for the small producer who does not have his own sound facilities. Direct lip-sync sound is a much more costly and difficult proposition to arrange. Outside of New York and Hollywood there are few studios that specialize in this service, and the small producer is either obliged to buy his own direct sound equipment or import a trained crew with sound truck from the nearest film center. Both alternatives are costly.

Whether the film requires a good many interior set-ups or can be staged mainly out-of-doors will have considerable influence on both the budget and shooting schedule. Interior set-ups are expensive because they require not only the rental or purchase of lighting units, but the installation (in many cases) of special lines to carry the current load. From the shooting schedule standpoint, the extra time involved in moving equipment to the location, installing power lines and setting up lights, amounts to a very substantial item.

After the shooting script has been ap-

proved, the director of the film and his assistant break it down into a shooting schedule, which is nothing more than a calendar of filming. If possible the entire script is taken apart and a definite time is set for shooting each scene. A well-planned shooting schedule can save a world of time and confusion for the production staff.

In setting up the shooting schedule, list for earliest shooting the scenes which require the least staging. In this way you will be getting a good part of your script "in the can" in the shortest possible time (always a comforting thought), and you will also have your crew busy while the elements of more complicated scenes are being assembled.

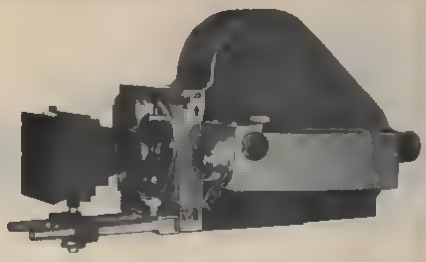
One of the first steps in setting up the shooting schedule is to go through the script very carefully and list the locations, props and personnel necessary for shooting each scene—also, any special equipment outside of that generally available which must be procured. Wheels should immediately be set in motion to secure in advance everything that will be needed for a particular day's shooting. Location sites should be scouted and selected. Special props and costumes should be arranged for. Cast and additional crew members (if required) should be lined up. Any special equipment that is necessary should be either bought or rented. In short, every detail should be arranged for in advance so that when the time comes to shoot a particular scene there will be no possible slip-up to cause delay.

Make a careful check of all proposed interior locations to make sure that sufficient electrical current is available. For black and white filming, standard circuits frequently will do the trick, but for color filming on any substantial scale, arrangements will have to be made to secure a more powerful current. In large buildings or factories sufficient power may be obtained by tying an auxiliary cable directly into the main switchboard. The maintenance man on the premises should be called in to make this connection, since he is usually familiar with the board and its separate circuits. Where such an arrangement is not practical, it may be necessary to arrange for a special transformer or generator. In any event, all such arrangements should be made well in advance.

Props and costumes provide a problem all their own. Wherever possible these should be borrowed or rented. Quite often, however, it is necessary to make special costumes and build props. This should be done while the crew is busy shooting routine shots.

In deciding which scenes are to be filmed, several elements must be taken into consideration. As a general rule, scenes in a common locale or with the same crew members should be grouped

The NORD



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•

USE YOUR TYPEWRITER TITLER for shooting ultra-closeups of flowers, insects and other nature subjects Simply frame your subject within the title card frame making sure that subject is kept the same distance from lens as indicated for title cards

•

WNEN SPLICES FAIL TO HOLD because cement is too thin (thus drying too rapidly) add a piece of film to the cement—about two frames from which emulsion has been thoroughly removed

•

ATTAGH A TWO-WAY spirit level to your tripod base to insure setting camera level each time Levels may be purchased at small cost from hardware stores or butcher supply houses Mount level on thin metal plate drilled to fit over tripod screw, between camera and tripod head

•

RIGNT ANGLE PRISM FINDERS, available at most war surplus stores, make excellent finders for shooting movies unobstrusively of children or others shy of the camera Gadger enables you to point at subject while facing away at right angle

•

PUNCH A SMALL HOLE in the rubber cap on your camera lens to permit "breathing" and thus prevent oxidation of your lens, where camera is stored for long periods of time with lens capped.

•

TO PREVENT PROJECTOR being pulled to floor by careless feet entangling the extension cord, twist cord around table leg three times before plugging into projector

•

NOISY PROJECTORS can be "soundproofed" by placing over them a "blimp" made of a corrugated carton of suitable size in which openings have been cut for the light beam and exhaust from lamp house

•

AFTER USING YOUR GAMERA at the beach, at sea, or near the ocean, clean all bright trim thoroughly with carbon- tetrachloride to remove any deposits of salt spray that might permanently mar the finish

together for shooting, even though they might be widely scattered in the actual sequence of the script. Thus, if scenes 22, 83, and 147 all take place in the same far-flung locale, it is common sense to schedule them for shooting at the same time, instead of making three separate trips to the location While shooting in sequence might be dramatically more understandable for the actors, it is rarely as economical as grouping scenes for maximum efficiency in filming

If the time alloted for filming the picture is limited, as is usually the case in the commercial film, it is wise to set up an alternate shooting schedule for interiors or exteriors In this regard, weather should be the deciding factor Exteriors should be scheduled for shooting first, weather permitting—but an alternate interior sequence should be penciled in just in case a monsoon overtakes the crew on the day scheduled for filming With necessary ptepartions for the standby sequence made in advance, the crew need only move indoors to continue shooting. In complicated sequences, always allot an extra day or two for unforeseen hold-ups, as these ate almost certain to occur

There is another factor which is often ignored, but which can raise the very devil with the shooting schedule and the ultimate delivery of the finished film, and that is the time that must be alloted for lab processing, sound recording and any other services which the producer must have done outside of his own organization Very often the producer, knowing the working speed of his own crew, will promise the client a completed film on a certain date, only to find that delivery is delayed by an unforeseen hold-up at the lab Know your outside services and the time schedules upon which they operate Check to see exactly how long it takes to have a work print made and edge-numbered, how long it takes to process original footage, how much time must be allotted for recording and re-recording Be sure to allow time for mailing both ways to plants located outside of the city When all these estimates have been made, add a few extra days to your estimate just for safety.

If, in the planning of the shooting schedule, it is found that certain scenes require preparation that is unduly elaborate to the effect of the scene in the finished picture, modifications should be made Very often it is possible to revise the shooting requirements of the scene to secure the same effect with a much simpler set-up Using a bit of originality, it is often possible to convey a feeling of great production value with staging that is really quite simple to set up

In any event, production planning is easily worth whatever time the 16mm commercial producer invests in it It should be instituted as normal routine if a truly professional approach to production is desired

NEW NORWOOD COLOR TEMPERATURE METER

(Continued from Page 85)

is quite easy to note because a relatively small movement of the light valve will cause the needle to move over quite a distance

A color temperature meter should be readily portable Large, ungainly devices that are cumbersome and awkard to lug around are, in general, considered to be unsatisfactory. A satisfactory device should preferably be small enough to slip into a shirt pocket The Norwood C-T meter works on such a strikingly satisfactory principle that it is possible to make the instrument small enough to slip into a shirt pocket

A desirable C-T meter should be moderate in cost A reasonable cost for a color temperature meter would be about the same as for a first class type exposure meter The design of the Norwood C-T meter is such as to facilitate quantity production procedures, with respect to run-of-the-mill cells, galvanometers, filters, and other elements of the electrical circuits. In addition, this meter does not require costly linkages and numerous moving parts Thetefore the production cost will be relatively low and the meter will sell for a very reasonable price

The Norwood C-T meter is provided with a unique type of scale which offers some rather advantageous features To begin with, the scale is very loog for such a small instrument The overall scale length is four inches This long scale provides for well separated scale divisions This makes for very easy and accurate reading of the scale Next, the scale plate is readily demountable It may be attached in position in just a moment Various alternate scale plates are available

One scale plate may be calibrated in terms of Degrees Kelvin for a useful color temperature scale, exteoding from 2000°K to 20,000°K.

Another scale may be calibrared in the newer color temperature units termed "Mireds" Mireds mean micro-reciprocal-degrees A mired scale offers some important advantages The photographically useful mired scale extends from 50 to 500 mireds. No one has to use this scale but it will be available for those who wish it

Another scale plate which is available

is very interesting and appears to be one which will have extensive use This scale is based on the premise that utmost simplicity of operation and most direct reading of results are important objectives For example, suppose that a photographer is working outdoors with color film, in uncontrolled illumination Under these conditions it is quite probable that he will have to use a filter over the camera lens in order to make the transmitted light match the characteristics of the film in the camera What he desires then of a color temperature meter is the most direct indication of the proper filter to use under the circumstances If translation from a Degrees Kelvin scale through tables, carried in the pocket, etc, to a final answer in terms of what filter to use, can be avoided, so much the better

The Norwood C-T meter is equipped to provide a direct answer in terms of the appropriate correction filter. A scale plate, which may be attached to the meter, is calibrated directly in terms of filters for a given type of film Available also is a demountable scale plate for outdoor color film, such as Kodachrome Outdoor or Ansco Color Outdoor, and Harrison filters Operation of the meter is quite easy The appropriate scale is snapped into position The meter is pointed toward

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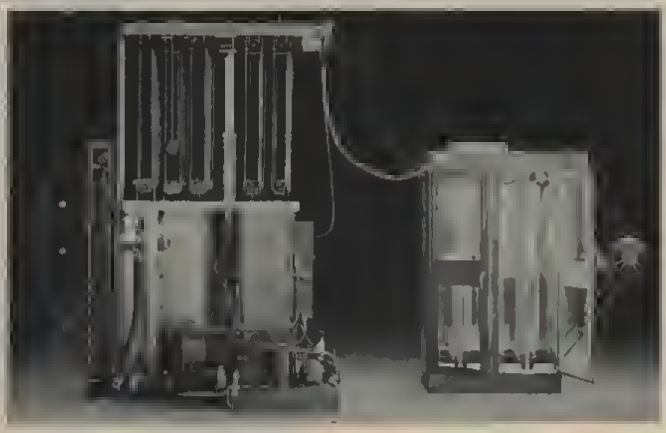

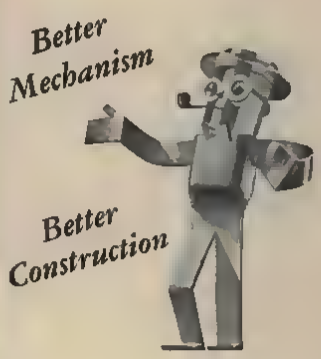

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• KARL BROWN who just returned from location in Southern Mississippi where he shot James Cruze's production, "Magnolia,' moved into his new home in the Hollywood hills, which boasted a lavish photographic darkroom as one of its many features

• FRANK B. GOOD got a breather between pictures when he wound up the photography on "Boy Of Flanders,' which starred Jackie Coogan

• VICTOR MILNER, who photographed the picture, was supervising the making of release prints for Fred Niblo's 'Thy Name Is Woman"

• GEORGE SCHNEIDERMAN was on location in Wadsworth, Nevada, filming the Fox production, Transcontinental Railroad"

• JAMES VAN TREES put the final scene of "Lilies Of The Field" in the can at First National and prepared to take an extended vacation

• JACKSON ROSE was at Universal shooting "An Old Man's Darling," which starred Laura LaPlante Previously, he had photographed P. P. Sheehan's initial production for Universal—"Innocent," a King Baggot feature

• FRED JACKMAN received a deserving accolade from the Los Angeles Times which published an article commending his direction of the Hal Roach release, "King Of Wild Horses," photographed by his brother, Floyd Jackman.

• REGGI LYONS resumed his association with J. Stuart Blackton, with whom he had been cinematographer many years before, and started shooting Blackton's Vitagraph production, 'Between Friends '

• NOTICE in the March, 1924 issue of AMERICAN CINEMATOGRAPHER stated "A.S.C. Members are seldom at liberty When they are, they may be reached by phoning or writing A.S.C. headquarters

• DAN CLARK wound up the photography on "Fine And Dandy," starring Tom Mix, and began preparations immediately to shoot another Tom Mix feature, 'The Trouble Shooter."

• TWENTY-FIVE YEARS AGO it was customary for the cinematographer to supervise the making of all release prints on important productions Engaged in this activity in March, 1924, were Arthur Edeson on Doug Fairbanks Sr's, "Thief Of Bagdad,' Charles Rosher on Mary Pickford's "Dorothy Vernon of Haddon Hall," and Victor Milner on Fred Niblo's "Thy Name Is Woman"

the light source The light valve is turned until the null reading is shown on the galvanometer Adjacent to the rim index line will be found an indication of the proper filter to use Very simple An additional convenience has been provided by showing the appropriate filter factor adjacent to each filter reading on the scale plate.

Alternate scale plates are available for other makes of filters and other types of color films. The average photographer will probably be equipped with one brand of filters and likely will not make frequent changes of type of color film in his camera Under these conditions there will be no need for frequent changes of scale plate on the meter, although such changes are very easily made when desired, as has been pointed out.

A very important feature of the Norwood C-T meter is the fact that its operation is independent of the light intensity. It is a null-reading type of instrument that functions with balanced electrical circuits Due to this fact, variations in light intensity will not affect the meter The meter is sensitive exclusively to changes in color temperature of illumination

Consider what this means in studio practice. An important use of a color temperature meter in the studio is to check each light unit and achieve a proper color temperature of light radiated therefrom With some types of color temperature meters it is necessary to go through a cycle of operations to adjust the meter to the intensity of the light before a color temperature reading can be taken Suppose the color temperature of the light is too high If an electrician reduces the color temperature of the light by reducing voltage or by installation of a filter, the intensity as well as the color temperature is reduced Then the cycle of operations of that meter must be repeated It might be necessary to run through the cycle four or five times to reach the proper color temperature for one lamp Repeat this for each lamp, and a tedious routine is involved

The Norwood C-T meter is quite independent of variation in light intensity. This makes it possible to present the Norwood C-T meter to the desired color temperature by simply turning the light-valve element until the desired reading shows on the scale plate Then the meter is pointed at the studio lamp If the light is too red or too blue that fact will be indicated on the galvanometer dial The studio lamp is then adjusted until the null reading shows on the meter At that time the studio lamp has the correct color temperature It is as simple as that.

It will probably be evident to the experienced cinematographer that a great deal of careful thought has gone into the design of this Norwood C-T meter A constant objective of the designer has been to produce an instrument that would, as nearly as possible, be ideal from the photographer's point of view It has been made compact, rugged, accurate, free from complicated parts, simple to operate, easy to read, gives directly significant indications, and is so designed that it may be produced at a very reasonable cost

1948 NOMINEES

(Continued from Page 81)

Joseph Valentine, A.S.C., "Joan Of Arc" (Sierra-R.K.O.),
William V. Skall, A.S.C., "Joan Of Arc" (Sierra-R.K.O.),
Winton Hoch, A.S.C., "Joan Of Arc" (Sierra-R.K.O.)

"Joan Of Arc," probably one of the most extensive Technicolor motion picture undertakings in recent years, was a three-way camera assignment demanding the services of Joseph Valentine, William V. Skall and Winton Hoch. Should this picture be selected by the Academy of Motion Picture Arts and Sciences as the best in the color division, Valentine, Skall and Hoch will share equally in the award, each receiving an Oscar in recognition of their contribution in the filming of this picture.

Actually the pictures and not the men who filmed them are the contenders for the Academy Awards, but of course the directors of photography shall receive the Oscars when the final results are announced. The eleven films under consideration and listed above are currently being voted on by some 2000 members of the Academy to select the best black and white and the best color production of 1948 The winners will be announced, along with the best achievements in other branches of creative motion picture production, at the gala annual Academy Award presentation which will take place this year at the Academy's own theatre in Beverly Hills, on the night of March 24th.

The nine contending films were selected by the top directors of photography in the industry from a list of 47 films nominated by the men who filmed them Each year each director of photography is invited to nominate one production in either or both black and white or color on which he has received single or joint screen credit This is included on a pre-

liminary or primary ballot which is sent to each director of photography in the industry who then votes for ten or less productions in black and white and eight in color in the order of his preference The eighteen productions thus selected are then screened by the Academy to give all directors of photography an opportunity to see these productions under the same conditions

At the conclusion of the screenings another ballot, listing the eighteen productions, is then sent to all directors of photography who vote for five black and white and four color productions in the order of their preference The nine productions receiving the greatest number of votes are nominated for the annual Cinematographic Achievement awards Only Academy members participate in the final voting—the procedure now going on and which culminates in the final announcements March 24th

Of the eleven men whose films are nominated for 1948 awards, only one—Charles B Lang, Jr—has graced the winner's circle in the past That was in 1933 when he was awarded an Oscar for his photography of 'Farewell To Arms'

Not a single foreign film nominee survived the finals In the initial nominations were eleven black and white and four color foreign productions Of these, only "Hamlet," "An Ideal Husband," and "The Red Shoes" survived the first or preliminary ballot and were listed among the eighteen films placed on the second or nominating ballot.

A full account of the winning films and the men who photographed them will appear in the April issue of American Cinematographer

THE RED SHOES

(Continued from Page 83)

travelled to Hollywood to confer with technical experts in the science of set lighting, and returned with blueprints for an arc light that could be boosted from the usual 150 amps, to 200 amps Even this monster lamp, however, failed to give him enough light for the effect he required.

After consultation with Mole-Richardson and Taylor Hobson Cooke, a lamp was conceived that would make a searchlight look like a pocket flashlight It took many months to design the lamp and make the lenses, but both firms had the new unit ready by the first day of shooting It was a 300 amp, water-cooled arc that produced a comfortable 1,200 foot-candles 100 ft away from the subject It contributes much to the authentic ballet atmosphere of the staging

The new 225 amp Mole-Richardson

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"Brute" was another important item in the staging of the ballets for The Red Shoes. Cardiff managed to obtain two of these in Hollywood and had them flown to England just in time for the filming of the dances. These big arcs could cover the entire corps-de-ballet in one clear source of light, and still produce a Technicolor light level.

Several very unusual special effects were devised especially for the ballet sequence, and some were adaptations of previously accepted techniques.

One of the most effective transitions, that of the full stage changing from day to night, was done by dissolving five separate background paintings. The 'dance of exhaustion' was shot straight at normal speed against a series of planned continuous transparent screens hung with cellophane. The whole emotional effect was produced by the movement of the dancer.

In one sequence huge transparent leaves swirl down around the dancer. This was shot at varying speeds, none higher than fifty-six frames a second. The cellophane falling leaves were released by hundreds of invisible wires. The set itself was composed by arranging transparent screens.

The effect of the huge shadows of the Shoemaker's hands menacing the dancer was achieved by using two 25 amp. brutes with the condenser lens replaced by a sheet of plain glass.

The striking effect of the dancer soaring through a changing surrealistic landscape was gained through the use of the "Gunnshot" process, developed in England by George Gunn of Technicolor. The setting was created through the use of painted backings of cellophane sheets, cellophane foregrounds and chemical effects produced in water. The dancer was super-imposed by Gunn's traveling matte process.

One very effective sequence is that in which a pile of newspapers on the ground begins to swirl and dance until it assumes the outline of a figure which suddenly changes into a man. This newspaper dance was shot at varying speeds. For example, one continuous shot started at eight frames a second and finished at thirty-two. The newspaper figure was constructed by the trick department and hung on wires puppet fashion so that it could be rehearsed to the music. The effect of the figure changing into the dancer and vice versa was done by cutting at the exact frame, tests having shown that dissolves were too slow. This dance ends with the dancer leaping at 48 frames which changes to 24 as he touches the ground.

An especially effective shot is that which is filmed from the back of the stage out toward the audience, with roaring waves filling the auditorium. This was a straight double exposure of the studio set, a painting, and a real shot of the sea made at Cornwall. Footlights on the stage were partly practical and partly painted. This must have been a very difficult shot to balance.

Even the smallest cut was shot to a playback of the complete musical score, and it was as much the precision of the dancers as that of the technicians that made the sequence possible.

While the 'Red Shoes" ballet is the dramatic and visual climax of the film, it is only a small part of the picture's 2½ hour length. The film contains many other excellent sequences filmed on location in Monte Carlo, Paris and other exotic spots. The beautiful settings and wonderful mood lighting are a perfect complement to an intriguing dramatic story. For Jack Cardiff it was a 'cameraman's dream,' embracing the warm scenic beauty of the Cote D'Azur, the splendor of first nights in European capitals, the hard work and play and squabbles of an international ballet company. For the audience it is a rare cinematic experience.

A. S. C.'s RESEARCH FOR TELEVISION

(Continued from Page 86)

of this relatively strange new instrument of photography. Inevitably there will be some who will prefer to pursue this phase of television work rather than the making of films for television.

It is, of course, the motion picture industry's repeated affirmation to enter the field of TV film production on a large scale that prompts the Society's interest in pursuing research now. For if the studios ultimately undertake to supply television with films especially made for the medium, the photography will become one of the most important factors contributing to such films' success. Obviously directors of photography would be derelict in their duty not to give the prospect their immediate attention.

Substantiating the view that the motion picture industry is vitally interested in production of films for video is the recent announcement that National Broadcasting Company heads had engaged in 'exploratory discussions with Warner Brothers on the production of special films for telecasting by the network.

William Paley, of C.B.S., was subsequently reported ready to lead the Co-

lumbia Broadcasting System into the active participation of television film production Hunt Stromberg has already made sample films and is negotiating with Edward Small for a video releasing arrangement Other producers, reported ready to release special made TV films are Boris Morris, Samuel Bronsten and Allen Kent These are just a few of Hollywood's feature film producers making motions in this direction The town is full of small independents making movies for television ranging from one-minute spot commercial announcements to feature-length films

It was to be expected that there would be a rush of individuals and newly-formed producing companies to get into TV film production "on the ground floor." But many have made the mistake of rushing in blindly, failing to first analyze television's peculiar needs as regards films, with the result that today many of these hasty film productions are gathering dust on the producer's shelves

When the studios undertake making films expressly for television, they will want to be sure their product is technically perfect at least, and toward this end directors of photography, through the American Society of Cinematographers, have taken steps to provide the correct type of photography for such films, when

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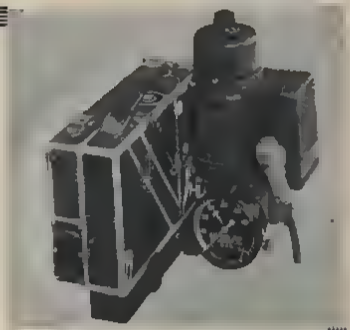

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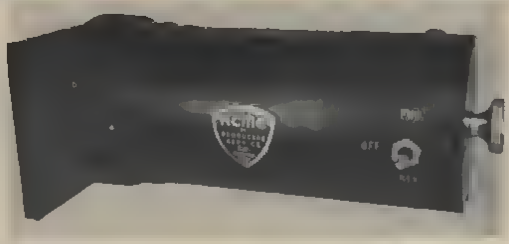

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and if called upon to do so. And as candidates for live show television cameramen, members of the A. S. C. given reasonable training in the fundamentals of electronics, are especially qualified by reason of their long and specialized experience in studio set lighting and camera techniques. Both the television and motion picture industries, we are sure, will be glad to know of the forthright and constructive action which the Society is presently undertaking.

NEW LENS TESTING METHOD

(Continued from Page 88)

trace of light on an oscilloscope.

"By using a microscope as a camera lens, the tiniest image detail can be magnified to a size so large as to occupy the whole kinescope screen, or to produce large, accurate traces on the oscilloscope. The light sensitivity of the image orthicon camera tube permits instantaneous observation and measurement of detail response beyond that of the best camera lenses, and even of lower-power microscope objectives.

"The trace on the oscilloscope can be calibrated quickly, easily, and accurately by focusing on the photosurface of the television pickup tube a measured amount of light sufficient to cancel one of the dark lines in the kinescope image.

"A general method has been worked out for measuring and plotting the detail response of lenses, film, and television image devices in the form of curves showing all values of detail response from zero to the limiting resolution, and for various angles and colors of light.

"A simple method is also provided for finding the overall response of systems in which several imaging processes occur, such as a motion picture process involving camera lens, film, and projection lens or an even more complicated television process where a scene may be picked up by a camera lens, transformed into an electrical image by a television picture tube, limited in resolution by an electrical channel, reconstructed as an optical image by a kinescope, and projected by an optical lens to a viewing screen."

CINEMATOGRAPHER'S PLACE IN TELEVISION

(Continued from Page 87)

been a newsreel cameraman and photographer of commercial films when I decided to get into television. Filming football games with a newsreel camera had been my forte, so it was natural that I should be interested in watching the local

(Continued on Page 104)

off the KINESCOPE *tube...*

LEW O'CONNELL, A.S.C. after thoroughly exploring the one-minute' commercial field, is producing a series of spot announcement films for a Los Angeles dog food manufacturer Enterprise is O'Connell's own in which he produces the films completely, photographing, editing, titling them as well as recording the sound for same

★

KLAC-TV will install kinescope recording equipment this month, to be readied for regular operation beginning April 1st.

★

COL. NATHAN LEVINSON, of Warner Brothers, is developing improved rype of mobile kinescope unit that will have special shock absorbing equipment, enabling unit to be transported anywhere Equipment will enable station ro record daytime events on the spot for delayed telecast in the evening

★

TELEVISION will give the motion picture industry its greatest impetus since the advent of sound said Spyros Skouras recently, citing that theatre TV is inevitable

★

KINESCOPE recording equipmenr was installed early in February in NBC's television station KNBH in Hollywood The equipment will make ir possible for station to record on film the programs presented by KNBH for later presentation by other NBC stations.

★

BELL TELEPHONE'S base rate for a television channel between two cities is reported ar $35 00 per month per airline mile for eight consecutive hours per day Charge for station connections in each city are $500 per month per station.

★

FEATURE FILMS MADE IN future primarily for television, says Samuel Goldwyn, will differ chiefly in technique variation There will be greater emphasis on story values, a return ro lustier, broader rype of acting, pacing will be more rapid and running time will be limited to one hour

★

PHILADELPHIA is reported first city to place censorship restrictions on all motion pictures for television in that city Regulation is being fought by local TV stations

★

A PORTABLE TELEVISION screen has been developed that can be detached from the set and carried into another room

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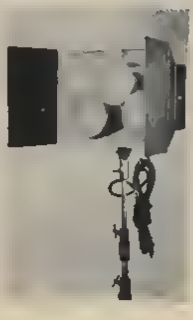

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BOOKS you'll want to read...

ELECTRON-OPTICS, *by Paul Hatschek. American Photographic Publishing Co, $3.50.*

When this book was written in 1935-36, electron-optics was in its infancy, although it had already made it possible ro build a number of remarkable devices, such as for example the kinescope tubes fot television, etc The author's purpose was to present fundamentals of this science in a simplified form so its mysteries could be revealed to a wide audience of readers who had no previous acquaintance with the subject The book is a must for students of television In short it is a textbook of the fundamentals of electronics written in plain language Its 180 pages are profusely illustrated with photos and understandable diagrams

•

PHOTOGRAPHIC EMULSION TECHNIQUE, *by T. Thorne Baker, F.R.P.S American Photographic Publishing Co, Boston $7.50*

This book covers the full gamut of science and production of photogtaphic emulsions and deals with the subject from the beginning to present day methods and experiments The book is intended not only as a guide for practical emulsion making, but as a textbook for technical students, industrial chemists, and photographers generally who may wish, for some special reason, to prepare phorographic emulsions of a special type to suit their needs Generously illustrated, the book's 340 pages will provide a valuable fund of knowledge and data for both amateur and professional, as well as the scientist

•

FILMS IN BUSINESS AND INDUSTRY, *by Henry Clay Gipson McGraw-Hill Book Co, $4.00*

This book is a timely guide ro modern practices in the use and production of non-theatrical motion pictures and slidefilms. Generously illustrated and containing many case histories, the volume discusses the various ways in which films can be profitably applied to business, personnel training, advertising of products and services, promoting safety campaigns, etc To anyone contemplating the production of such films, it gives valuable and helpful guidance

The special sections devoted to the use of films in television and related fields, make the book of unusual interest to those engaged in television film production.

BETTER COLOR MOVIES, *by Fred Bond. Camera Craft Publishing Co., $5.00*

The author of the now famous 'Westward How,' comprehensive photographic guide to the West, now brings the color movie enthusiast the benefit of his years of study and experience in working exclusively with color, beginning with color movies more than fifteen years ago when Kodachrome film was first introduced The book is devoted to all the more common problems of the amateur movie maker Its 156 pages is abundantly illustrated with both black and white and color photos and helpful charts. It deals with color cinematography and lighting, both indoors and out, the calculation of exposure, night photography, color continuity, etc A real must for every cinematographer, professional as well as amateur

•

BRITISH FILM INDUSTRY YEAR BOOK, *edited by John Sullivan Palm Press, Ltd, London, England* An unusually comprehensive information volume which includes such data as British feature films completed in 1947, British studios and personnel, text of workers' contract agreements, roster of actors and actresses, alphabetical listing of technicians, etc Listings of players and personnel includes recent credits

•

PRINCIPLES OF STEREOSCOPY, *by Herbert C McKay. American Photographic Publishing Co, $5.00*

The author, a popular writer on many photographic subjects, from years of experience tells enough of the theory to give a complete grasp of the principles involved He then proceeds to give detailed directions for each of the steps required to make successful stereograms The book's 190 pages are amply illustrated with pictures and diagrams. Its 19 chapters covet evety phase of the art from elementary stereography to practical stereo technique, and goes on to cover special proceses and applications

Writer McKay knows his subject well and has covered it fully and comprehensively His aim was to give the beginner guidance which will enable him to derive utmnst benefit from the art, and he has succeeded well.

grid games on television The camera work on the first game I chanced to see on a television receiver convinced me there was opportunity for an experienced newsreel man to improve the quality of TV coverage of grid games, so I decided to look into it I applied for the job at KLAC-TV in Hollywood, was accepted, and after a brief schooling in the electronics phase of television camera work, was sent out to covet one of the west's important football games without ever having photographed with a TV camera.

One of the excellent features of a TV camera that a cinematographer notices first is the electronic viewfinder, which enables him to see the scene exactly as it is picked by his camera lens This is directly in back of the camera and with the studio RCA cameras the hood is hinged so that the finder may easily be used with the camera set at various heights The camera has a rotary four-lens turret and usually comes equipped with three Ektar lenses of various focal lengths, ranging from 50mm to 135mm The turret is rotated by turning a knob at back of the camera The lenses are focused by operating a lever on the side of the camera that moves the pickup tube roward or away from the camera lens. Of course, there is a preliminary focusing of the lens that takes place before shooting begins and with some cameras the lens diaphragms are locked in position, once the desired stop is established.

Once the TV camera is on the air, it remains on during the entire interval of the broadcast This means the cameraman is operating the camera every minute The director of the program relays his instructions ro the cameraman by intercom and there is a red light that glows inside the viewfinder ro indicate when the camera is cut into the main channel and its pickup is actually going out on the air—this, where two or more cameras are focused on a scene or remote event such as a foorball game Back in the control room, the results of the TV cameras are channeled to their respective monitors. Here the electronics engineer or program director watches each monitor and intercuts the various camera pickups to provide an interplay of camera angles from long shot to closeup, as the script or his judgment demands

Obviously it is impossible for the TV cameraman to follow a script or cue sheet, so the program director does it for him, sending instructions for changing camera angle or lens over the intercom

My most interesting remote assignment was photographing the USC-Notre Dame football game last year at the Los Angeles Coliseum, with KLAC's television cameraman Arch Griffin on the other camera. There are always two or more cameras photographing a television event, indoors or out The important thing the

TV cameraman must develop is the ability to work smoothly with his teammate, to know his technique, how he thinks and to anticipate not only his next move but that of the program director. In no other field of photography is this so important Smooth teamwork is a prime requisite

In the matter of lighting studio broadcasts, I think that KLAC-TV is the first to thoroughly explore the application of motion picture lighting techniques Working closely with lighting technicians in the motion picture industry, they have engaged one of Hollywood's top flight lighting engineers Typical motion picture studio lighting equipment has been brought in, along with dimmer banks and other lighting controls, and for the first time in the history of West Coast television, KLAC TV is giving its audiences real motion picture lighting on its live broadcasts

One important motion picture technique we hope to develop more thoroughly here is the "reverse shot," in which one TV camera virtually shoots against the other, with one camera concealed behind a screen or flat with a camouflaged opening for the lens This innovation—for television, at least—was introduced recently by one New York TV station and only proves again that there are many cinematic techniques which also are suitable for TV photography, and will be introduced as more and more cinematographers come into television either as cameraman or as consultants

The qualities necessary for a good television cameraman are many, but I think the most important are that he be as nimble as a cat, have the memory of an elephant, and the ability to anticipate action like a mongoose The successful television cameraman will be a new breed, combining these physical characteristics with a wide knowledge or experience in motion picture photography, a keen ear for sound, and, if possible, some electronics experience Moreover, I believe that many of television's directors of the future are to be found within the ranks of Hollywoods cinematographers who are especially qualified for the job by virtue of their specialized training in motion picture production

I recall a prophetic incident that occurred to me several years ago when I was a motion picture cameraman in the army I had met David Sarnoff by chance and we got to talking about cinematography and its relation to the future of television Mr. Sarnoff said that every motion picture cameraman should look forward to the advent of commercial television and advised me to get into it I didn't realize at the time the significance of his words, but here I am today, working behind a television camera. And I think that shortly we shall see other cinematographers filling a similar role

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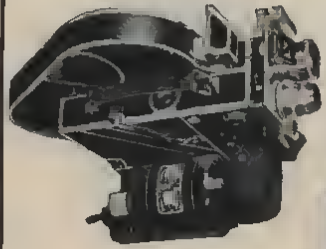

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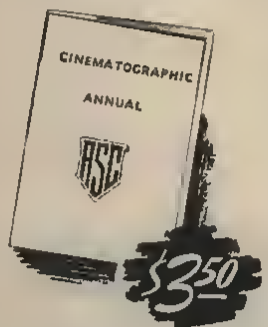

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American Society Of Cinematographers
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FIRELIGHT THAT'S REAL

(Continued from Page 84)

of an array of twenty-four 1000- or 2000-watt lamps suspended at various heights before a curved metal reflector, about three by four feet in size Each of the lamps is made to flicker off and on at intervals by the flasher, which is similar in principle to an electric sign flasher A multi-wire cable extends from the flasher to the reflector and feeds the lamps

Figure 3 shows a top view of the flasher In the immediate foreground is the revolving cylinder with twenty-four contact points which touch the cylinder and excite 24 solenoids which in turn send current momentarily to the lamps The order, frequency and duration of light flashes is governed by the area of the cylinder left exposed to each of the contact points This can be altered as required, depending on the type of firelight desired And there are quite a number of variations, as Gregg Toland found out after considerable study and observation of fires of various types

As the cylinder rotates, the points are made to break, causing the momentary flash of the various lamps Because the unit can be varied in frequency, speed and intensity, any type of firelight can be simulated by the turn of a dial, and the lights themselves dimmed or brightened for any lens opening In "Wuthering Heights" the unit was employed to create the illusion of light from the huge log fireplaces in the Georgian interiors, and for "Enchantment" the steadier and softer illumination of an English coal-grate For "Roseanna McCoy," the mechanism is adjusted to imitate the pine-knot fires so popular in the Kentucky mountains

The circuits leading to the lamps are first sent through a dimmer bank, which permits lowering or raising the intensity of the flashing lamps Other means are used to vary the effect such as altering the interval of flash, altering the location of the flash from first one side of the reflector then the other, and also the bank of lamps is often divided into two alternating levels of light intensity to give further realism to the firelight flicker

Where the effect of firelight only is desired on the set, that is—where the fireplace or fire does not actually appear in the scene—the light from the large multiple-lamped reflectors is usually cast into the scene from off stage, upon the background or perhaps upon the player's faces Frequently a mirror is used to reflect this light into certain parts of the set.

The frequency and intensity of flicker may also be varied to suit the dramatic situation Thus the right firelight can heighten the effect for intensely dramatic shots, or it may be subdued—the contrast between shadows and light lessened—for a more somber mood, a slower pace

We saw another version of this lighting gadget in use on the "Roseanna McCoy" cabin set on the Goldwyn sound stage In this instance the camera faced the fireplace, so the flasher-lamps—much smaller this time—were carefully hidden among the pmp coals in the fireplace grate—and their effect augmented by real flame fed by jets of gas.

Sometime later, in the projection room, we saw the photographic result of the shots made on this set It was not difficult for anyone who has experienced repose beside a warm, dancing fire at dusk to appreciate the realism which Garmes injected into those scenes. And we are sure that Gregg Toland, too, would have been happy with the result

SYNCHRONIZED SOUND FOR HOME MOVIES

(Continued from Page 91)

fects where needed, etc Notes made at the time the film is shot will help put the sounds where they belong Backgrounds and sound effects may be obtained from regular disc type records

A complete package is being offered in Sears, Roebuck and Co mail order and retail stores which contains the required accessories to synchronize any silent projector to a Silvertone wire recorder This package also contains four 12 inch vinyl sound effects records, an illustrated instruction booklet and a convenient storage album It sells for $14 95 in Sears retail stores and $13 95 plus postage by mail order.

While primarily developed for use with Sears Roebuck's Silvertone wire recorder, it can also be used with any other make wire recorder which winds the wire in a slot in the rim of the turntable and has a turntable speed of 78 R P M (same speed as for playing standard disc records)

To make sound movies by this method you need a projector, a wire recorder, and a synchronizing kit. Set up the projector and screen in the usual manner. Place the wire recorder to the right or left of the projector, depending upon whether you are right or left handed

The kit contains two mirrors and brackets One is placed at a corner of the screen in such a way as to pick up some

of the light projected onto the screen. It has a clamp for screens having a square cross piece at the top With some screens it may be necessary to notch the cross piece, or drill a small hole to provide a good attachment of this mirror Adjust the mirror to reffect light from the screen back to the recorder The second mirror is then set in a screw-in fitting located near the recorder turntable

Place the synchronizing disc on the recorder turntable With the projector running adjust the mirror on the screen to reffect light to the mirror on the recorder. Adjust the mirror on the recorder so it reflects this light onto the stroboscope disc There are two sides to the disc, A and B Both sides are calibrated for projectors operating at 16 frames per second, but inasmuch as all projectors do not have the same type shutters—some are two-blade, some three blade, etc—the disc has a stroboscope on both sides The segments on one side are calibrated for projectors having a shutter providing 1 or 3 interruptions per frame, while those on the opposite side are calibrated for use with projectors giving a 2 or 4 interruption shutter action Unless you know the type shutter on your projector, it will be necessary for you to first make a test run with the stroboscope disc in place, in order to determine which side is to be used

To do this, place the disc on the recorder turntable, with or without the recording wire threaded for use, then start projector and recorder and adjust mirrors until the reflected light is seen falling on the stroboscope disc Adjust the projector speed control until the white lines or segments in the stroboscope disc appear to remain fixed If, despite adjustment of the projector speed control, the segments cannot be made to appear motionless but tend to travel to the right or to the left, then turo the disc over and repear the speed adjustment. One side or the other will be found to be correct, and when you determine which side is the one to use with your projector, mark it plainly for future reference

Assuming that the film has been edited, the leader "cued," and a script prepared, thread the projector, load the wire recorder and make ready to record Check roirrors again for focusing Have the script, helpers, 'sound effects man' and others participating, ready.

Start the projector and watch for the three dots to flash on the screen When the 'Go' flash appears, start the recorder and quickly adjust the speed conrtol on the projector until the strobo disc segments appear to stand still, same as when you made the check above Start the sound part as soon as tbe recorder starts and avoid dead spots. Then go right ahead with the script

When you are through, rewind both wire and film. Then reload recorder, and rethread the projector Start the projector, watch those 'cues,' start the recorder on playback, and bring the projector into synchronism as before Then sit back and warch how those silent films come to life. The participants will get a bang out of it too If you secure good sound results on the first try—fine If not, just do it over You can reuse recording wire indefinitely and when a recording is made, whatever is on the wire may be automarically erased, so it's no problem to do it over In fact you will end up by doing ir anyway because you will invariably see improvements that you can make The wire required for each film can be cut off the main spool and wound on a spare so it may be kept with the reel of film

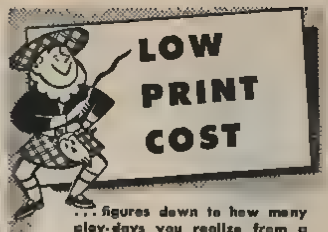
Once you try this new, easy method of recording sound, the usual run of silent films will seem dull by comparison The use of the wire recorder in this manner is practical and economical, especially since the wire can be reused without loss The wire recorder also has an advantage over other types of recording because it will record or playback for as long as one hour without interruption

AMATEUR WITH PROFESSIONAL IDEAS

(Continued from Page 92)

ally scouts around among his neighbors and friends for players, casting bis characters according ro their personalities and appearance, or their ability ro furnish some particular, hard-ro-find costume or props Nobody gets paid for acting and Maker already bas established quite a stable of "stock" players, whom he can usually call upon to portray featured roles in his pictures These include an artist, an Oakland newspaperman, a special police officer, a dress shop owner, a Berkeley, Calif., mailman, and two housewives whose acting abilities may someday attract the roving eye of a Hollywood talent scout

What makes movie making so appealing to Maker is that every picture supplies an outlet for his wide range of talents. He wouldn't be satisfied merely to set up, focus and shoot his camera, he wants the fun of not only writing the story, but of personally scouting all exterior locations, selecting wardrobe and costumes and of personally building any props he is unable to locate already made *(Cont'd on Pg 108)*



. . . figures down to how many play-days you realize from a print. The way to insure longer playing life is to have all your prints treated with

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The highlight of 'Dark Timber,' his latest film, of coutse, was the project of making the miniature logging train and of staging the several sequences in miniature, including the hazardous scene in which the train is blown up while traveling ovet a wooden trestle Maker constructed a scale working model of the old Shay engine in his garage, along with a number of flat cars The gears from four egg beaters served as part of the engine mechanism

A small railroad trestle and tracks were built in a rock quarry in the hills behind Oakland, and carefully blended in with the terrain so they would appear full size running through regular size mountain country Behind the engine came flat cars loaded with fake logs, made from tree limbs appropriately cut and scarred At the quarry rim, another trestle had been built for the explosion scene It was here that the villian of the srory was to dynamite the tracks and blow up the opposition's train as it tried to move out its logs A mouse trap tripped just before the explosion, catapulated a miniature figure of the villian frnm the engine cab in convincing fashion.

Maker says there was pretty close ro $10,000 worth of equipment at the scene when the explosion sequence was filmed Extras doubled as firemen, when not before the camera, and stood around with water buckets in the event of fire Two pounds of black powder was dischatged electtically as the brave engine chugged along the trestle Maker was on the quarry floot sbooting up with a telephoto lens as the tracks blew up and the train plunged into the canyon below, looking pretty much as it would in real life The shot was perfect It had to be There was only one miniature train and Maker could hardly be expected to have a double on hand, just in case things went wrong

Maker shot the entire picture using bis Auricon single system sound camera, for which he has built a special blimp Later he dubbed in sound and backgmund music supplied by Maker's Studios' own amateur musicians playing together as an orchestra.

Maker estimates it takes about four months ro shoot one of his photoplay films and that the cost averages about $400 00 per picture He is reimbursed for this by renting his films out to clubs and lodges at a straight $15 00 fee Witb this small return, he buys more film and makes more pictures

Among Maker's outstanding productions are such titles as "Lem The Specialist,' a Chic Sale type of comedy, "Six Gun Saga", 'The Death Ray,' a gruesome thing Maket finally had to restrict, West of the Brazos," "Call of The Mounties' and 'The Devil's Kitchen" This last one satisfied that urge in Maker that might have made him a Robert Montgomery or Orson Welles It was the story of a journey to hell—tops artistically, but hard on the audience.

"Dark Timbet," sneak previewed in Oakland recently, is currently undergoing some revision and re-takes Maker hopes to bring it to Hollywood for its premiere showing sometime in April

BULLETIN BOARD

(Continued from Page 76)

WILLIAM SNYDER, A.S.C., was unin tentionally omitted from the list of Academy Award nominees which appeared on page 42 of our February issue Snyder photographed Columbia s Technicolor production "The Loves Of Carmen" which is among the final four contenders in the color division for a cinematographic achievement award in that division.

Also omitted in the February listing were the names of William V Skall A.S.C. and Winton Hoch, A.S.C who should have been listed along with Joseph Valentine, A.S.C., as co-photographers of "Joan Of Arc," also a nominee for an Academy Award for color photography

●

MITCHELL CAMERA'S public relations man, Rudy Stolz, has pointed out an error in our story last month, describing a cameraman's use of twin-Mitchell 16' cameras in filming the Rose Bowl game, citing it was a Mitchell tripod that was used with the camera, not a 'Pmfessional Jr.'

●

LEN ROOS, A.S.C., is taking his Hallen magnetic recorder to New York where it will be demonstrated before Eastern TV and film producers at the Barbazon-Plaza horel March 8th

●

JANUARY-FEBRUARY issue of DuPont s house magazine Better Living," features a two page picture spread pointing up the impotrant film productions made during past 20 years on which DuPont film was used exclusively Each of the 20 productions was photographed by a member of the A.S.C

●

RECENT HOLLYWOOD visitors include Jack Draper, of Mexico City, and Jack Coote, noted color expert of England Draper is undertaking a 16mm production in Mexico Coore, with his associates, are developing a new color process for use by English studios

CURRENT ASSIGNMENTS OF A. S. C. MEMBERS

(Continued from Page 78)

Paramount (Cont'd)

• LEO TOVER, 'My Friend Irma," (Hal Wallis Prodn.) with Marie Wilson, John Lund, Diana Lynn, and Don DeFote George Marshall, director

20th Century-Fox

• RUSSELL HARLAN, 'I Was A Male Wat Bride," with Cary Grant, Ann Sheridan, William Cbellee Howard Hawks, director

• JOSEPH LASHELLE, 'Come To The Stable," with Loretta Young, Celeste Holm and Elsa Lanchester Henry Koster, director

• MILTON KRASNER, "East Side Story," (title later changed to "House Of Strangers') with Richard Conte, Susan Hayward and Edward G Robinson Joseph Mankiewicz, director.

• HARRY JACKSON, 'Oh You Beautiful Doll," (Technicolor) with Mark Stevens June Haver, Gale Robbins, S Z. Sakall and Charlotte Greenwood John Stahl, director

• JOSEPH LASHELLE, "Everybody Does It, with Linda Darnell, Celeste Holm Paul Douglas and Charles Coburn Edmound Goulding, director

United Artists

• LIONEL LINDON, 'Twilight,' (Strand Prodn.) with Laraine Day, Dane Clark, Franchot Tone and Agnes Moorhead Irving Pichel, director

Universal-International

• FRANK PLANER, "Take One False Step," with William Powell, Shelly Winters and Marsha Hunt Chester Erskine, director.

• WILLIAM DANIELS, "The Western Srory," with Yvonne DeCarlo, Charles Coburn, Scott Brady and John Russell Frederick de Cordova, director

• RUSSELL METTY, "Curtain Call At Cactus Creek,' with Donald O Connor, Eve Arden, Vincent Price, Gale Storm and Walter Brennan Charles Lamont, director

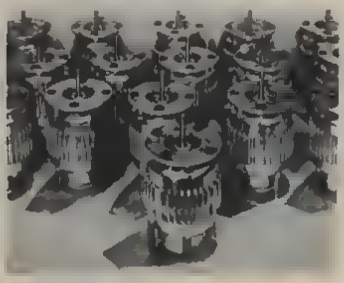
• IRVING GLASSBERG, 'Sword In The Desert,' with Marta Toren, Stephen McNally and Paul Christian George Sherman, director

WHAT'S NEW

in equipment, accessories, service

B&H's New 8mm. Projector

Bell & Howell Company has announced its new 8mm Filmo Regent projector Priced at $149 50, the Regent" has many new features including 400 ft film capacity, single frame projection, 500-W prealigned lamp, and a 1" f/1 6 lens New projector operates on AC current only



Precision-built motors

The Hallen Corp, Burbank, Calif, has installed very latest type precision testing equipment for checking speed of synchronous motors and other parts of the Hallen synchronous magnetic recorders which record magnetically on oxide-coated film 17½mm in width Motors, which are of special design, insure absolute constant speed of 90 feet pet minute, according to Len Roos, A.S.C., president of the corporation

Mitchell '16' Reduced

Mitchell Camera Corp, Glendale, California announces that price of the Mitchell '16 professional camera has been reduced several hundred dollars, citing improved production methods as enabling them to pass benefits on to the purchaser

New S.O.S. Catalog

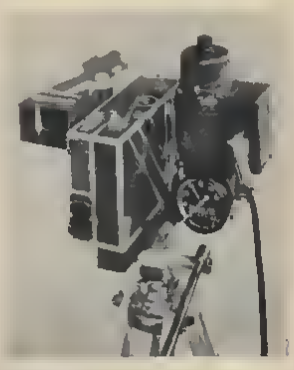
A new 64-page catalog covering every phase of motion picture theatre operation has been issued by SOS Cinema Supply Corp, New York Over 100 illustrations distributed throughout the book alongside text make it simple to order the wanted part or item Sections are devoted to equipment for photography, portable and home movies, 16mm and 35mm projection, and for stage, studio and recording labotatory needs

Automatic Dissolve

Joseph Yolo, Hollywood, Calif, announces a new improved model of the Yolo automatic dissolve for Cine Special cameras. Device is more compact, smoother working and may now be attached instantly to any Cine Special cameta. Dissolve device enables camera operator to produce smooth fades and more professional-like dissolves automatically with the Cine Special camera

Matched Lenses

American Bolex Co, New York City, announces a set of matched Kern lenses for the Bolex H-16 (16mm) motion picture camera Three lenses—a Kern Switar 1" f/1 4, a Kern Yvat 3" f/2 5 and a Kern Yvar 15mm f/2 8 are all corted lenses, controlled by precise manufacture and test to insure that pictures made with one lens at a given diaphragm stop will match those made at the same setting with either of the other lenses A featute of the Switar lens is the ingenious and easy-to-read depth-of-field guage Focusing scale ranges from 1½ ft to infinity All three lenses have "C" mounts fot use with other 16mm cameras



Vari-speed camera motors

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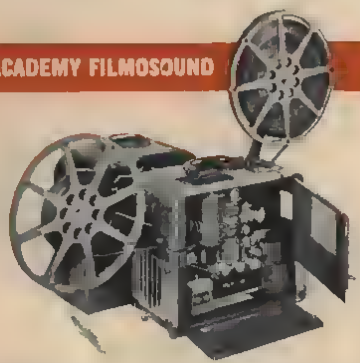

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